

CLAIMS

1. A display device comprising:

a plurality of pixels each configured by a switching element and a light-emitting element

5 disposed on a substrate in matrix;

a plurality of source signal lines disposed for one pixel column; and

one gate signal line disposed for one pixel row,

wherein:

10 the switching element has an input terminal, an output terminal, and a control terminal;

the input terminal is electrically connected to any one of the plurality of source signal lines;

the output terminal is electrically connected to the light-emitting element; and

the control terminal is electrically connected to the gate signal line.

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2. A display device comprising:

a plurality of pixels each configured by a switching element and a light-emitting element

disposed on a substrate in matrix;

a plurality of source signal lines disposed for one pixel column; and

20 one gate signal line disposed for one pixel row,

wherein:

the switching element has an input terminal, an output terminal, and a control terminal;

25 the input terminal is electrically connected to any one of the plurality of source signal lines;

the output terminal is electrically connected to the light-emitting element;

the control terminal is electrically connected to the gate signal line; and

a plurality of source signal line driver circuits each electrically connected to at least one of the plurality of source signal lines is provided.

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3. A display device comprising:

a plurality of pixels each configured by a switching element and a light-emitting element disposed on a substrate in matrix;

a plurality of source signal lines disposed for one pixel column; and

5 one gate signal line disposed for one pixel row,

wherein:

the switching element has an input terminal, an output terminal, and a control terminal;

10 the input terminal is electrically connected to any one of the plurality of source signal lines;

the output terminal is electrically connected to the light-emitting element;

the control terminal is electrically connected to the gate signal line; and

one gate signal line driver circuit which drives a plurality of the gate signal lines simultaneously is provided.

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4. The display device according to claim 2,

wherein the source signal line driver circuit is a current output type source signal line driver circuit.

20 5. The display device according to claim 2,

wherein the source signal line driver circuit is configured by a thin film transistor.

6. The display device according to claim 2,

25 wherein the source signal line driver circuit is formed on the same substrate as the switching element.

7. The display device according to claim 2,

wherein the source signal line driver circuit is the one mounted a semiconductor chip.

30 8. The display device according to claim 2,

wherein a plurality of the source signal line driver circuits are divided to dispose on both sides of a region where the plurality of pixels are disposed.

9. The display device according to claim 2,
5 wherein the source signal line driver circuit drives any one of the plurality of source signal lines.

10. The display device according to claim 2,
10 wherein the source signal line driver circuit is configured by a transistor having single polarity.

11. The display device according to claim 3,
wherein the gate signal line driver circuit is configured by a thin film transistor.

12. The display device according to claim 3,
15 wherein the gate signal line driver circuit is formed on the same substrate as the switching element.

13. The display device according to claim 3,
20 wherein the gate signal line driver circuit is the one mounted a semiconductor chip.

14. The display device according to claim 3,
wherein the gate signal line driver circuit is configured by a transistor having single
25 polarity.

15. The display device according to any one of claims 1 to 3,
wherein the switching element is configured by one thin film transistor.

16. The display device according to any one of claims 1 to 3,
30 wherein the switching element is configured by a multi-gate thin film transistor.

17. The display device according to any one of claims 1 to 3,
wherein the light-emitting element is an EL element.

5 18. An electronic apparatus equipped the display device according to any one of claims 1
to 3, including a video camera, a digital camera, a notebook personal computer, a mobile
computer, a portable image reproducing device provided with a recording medium, a head
mounted display, a game machine, a car navigation system, a personal computer, a portable
information terminal, a mobile phone, an electronic book, a folding portable display device, and a
10 wristwatch type display device.

19. A driving method of a display device,
wherein a plurality of pixels each configured by a switching element and a light- emitting
element is disposed on a substrate in matrix;
15 a plurality of source signal lines is disposed for one pixel column;
one gate signal line is disposed for one pixel row;
the switching element has an input terminal, an output terminal, and a control terminal;
the input terminal is electrically connected to any one of the plurality of source signal
lines;
20 the output terminal is electrically connected to the light-emitting element; and
the control terminal is electrically connected to the gate signal line;
and
wherein a plurality of the gate signal lines is driven simultaneously and a plurality of the
switching elements are turned ON so that a signal of any one of the plurality of source signal lines
25 is input to the light-emitting element and the light-emitting element is driven.

20. The driving method of the display device according to claim 19,
wherein the switching element is configured by one thin film transistor.

30 21. The driving method of the display device according to claim 19,

wherein the switching element is configured by a multi-gate thin film transistor.

22. The driving method of the display device according to claim 19,
wherein the light-emitting element is an EL element.